Claims

1. Method for transmitting IP packets between a Radio Network Controller (RNC) (2) and a further element in a mobile radio network,
characterized in that
an IP packet to be transmitted contains a first coder-decoder mode indication (TFCI, AMR), which indicates the coder-decoder mode (TFCI, AMR) with which it was transmitted from a mobile terminal (MT) (1) to a first Radio Network Controller (RNC) (2),
a coder-decoder indication exchange system (DFC) (5) passed through by an IP packet on the way through the mobile radio network undertakes an exchange of the first coder-decoder mode indication (RFCI, AMR) contained in the data packet for a second coder-decoder mode indication (RFCI requested) corresponding to the first coder-decoder mode indication according to a stored table in the coder-decoder mode indication exchange system (5) and known to a further element or mobile terminal (MT) (1),
the IP packet, which contains the second coder-decoder mode indication, is forwarded to the further element.

2. Method according to Claim 1,
characterized in that
a Radio Network Controller (RNC) (2) is used as the further element of a mobile radio network in the event of a call between two mobile terminals (1, 11).

3. Method according to one of the preceding Claims, characterized in that
an interface (gateway) is used as the further element of a mobile radio network in the event of a call between a mobile terminal (1) and a base station (15).

4. Method according to one of the preceding Claims, characterized in that
in the event of initialization of a connection between two mobile terminals (MT) (1, 11) at least one first coder-decoder mode indication (TFCI, AMR) and associated second coder-decoder mode indication (TFCI requested, AMR requested) are stored in a table of a coder-decoder mode indication correspondence storage device (5).

5. Method according to one of the preceding Claims, characterized in that
in a data packet coming from a mobile terminal and containing a coder-decoder mode indication in the form of a TFCI value and AMR value the TFCI value is exchanged for a coder-decoder mode indication in the form of an RFCI value by the Radio Network Controller (RNC) (2) receiving the data packet.

6. Method according to one of the preceding Claims, characterized in that
the TFCI indications and the RFCI indications represent a coder-decoder mode.

7. Method according to one of the preceding Claims, characterized in that

for calls between mobile terminals (MT) (1, 11) the Radio Network Controller (RNC) (2) can output SDU parameters, which represent a specific coder-decoder mode with an RFCI value, which is exchanged by the coder-decoder mode indication exchange system (DCF) (5) for the RFCI value and the requested RFCI value.

8. Method according to one of the preceding Claims, characterized in that
the IP packet is converted to an Optimized Codec Support Frame format (OCSF) for transport in a GTP tunnel and divided into RAB subflows (12) for transport between the Radio Network Controller (RNC) (2) and mobile terminal (MT) (1).

9. Method according to one of the preceding Claims, characterized in that
the nature of the coder-decoder mode is indicated in the Optimized Codec Support Frame (OCSF) by the RFCI value,
the mode with which the sender wishes to code the data is indicated in the Optimized Codec Support Frame (OCSF) by the RFCI requested value,
the sequence of fields depends on implementation and standardization and
other fields are added as required, if the recipient is initialized to interpret them.

10. Method according to one of the preceding Claims, characterized in that
an IP packet sent by a mobile terminal (MT) (1) is divided into RAB subflows (12) and provided with values

for TFCI and TFCI requested and sent to the Radio Network Controller (RNC) (2).

11. Method according to one of the preceding Claims, characterized in that
in the Radio Network Controller (RNC) (2) the TFCI value and the TFCI requested value are exchanged for the corresponding RFCI value and RFCI requested value of the Optimized Codec Support Frame (OCSF).

12. Method according to one of the preceding Claims, characterized in that
the GTP-U header is prefixed to the Optimized Codec Support Frame (OCSF) by the Radio Network Controller (RNC) and forwarded to the Gateway GPRS Support Node (GGSN) (4) via the Serving GPRS Support Node (SGSN) (3).

13. Method according to one of the preceding Claims, characterized in that
the Optimized Codec Support Frame (OCSF) is forwarded by the Gateway GPRS Support Node (GGSN) to the coder-decoder mode indication exchange system (DCF) (5),
the corresponding RFCI values and RFCI requested values are aligned with the coder-decoder mode of the recipient mobile terminal (MT) (1),
the modified Optimized Codec Support Frame (OCSF) is sent back to the Gateway GPRS Support Node (GGSN) (4).

14. Method according to one of the preceding Claims, characterized in that
the IP packet is modified by the coder-decoder mode

indication exchange system (DCF) (5),
the coder-decoder mode indication exchange system (DCF) (5) is called at least one further time by the Gateway GPRS Support Node (GGSN) (4) to generate the Optimized Codec Support Frame (OCSF),
at least one Gateway GPRS Support Node (GGSN) (4) is involved.

15. Method according to one of the preceding Claims, characterized in that the GTP-U header is modified or exchanged by the Gateway GPRS Support Node (GGSN) (4) and the Optimized Codec Support Frame (OCSF) is transmitted to the Serving GPRS Support Node (SGSN) (3), which forwards it to the Radio Network Controller (RNC) (2), the RFCI value is exchanged by the Radio Network Controller (RNC) (2) for the corresponding TFCI value, the RFCI requested is exchanged for the TFCI requested value or modified,
the IP packet is sent via the RAB subflows (12) to the mobile terminal (MT).

16. Method according to one of the preceding Claims, characterized in that
before it is sent to a base station (FT) (15) the Optimized Codec Support Frame (OCSF) is converted by the coder-decoder mode indication exchange system (DCF) (5) to an IP packet,
the IP packet is sent by the coder-decoder mode indication exchange system (DCF) (5) to the Gateway GPRS Support Node (GGSN) (4) or directly in the direction of

the base station (FT) (15).

17. Method according to one of the preceding Claims, characterized in that
the coder-decoder mode change is initiated by the Radio Network Controller (RNC) (2),
the coder-decoder mode change is initiated in the mobile terminal (MT) (1) under the supervision of the Radio Network Controller (RNC) (2).

18. Device for selecting data packets transmitted between terminals and coded with negotiated coder-decoder modes,
characterized in that
it comprises a table stored in a central coder-decoder mode indication exchange system (DCF) (5) for comparing the RFCI value with a second RFCI value,
the device (DCF) (5) includes an element for converting IP data packets to Optimized Codec Support Frames (OCSF) and for comparing the listed RFCI values with the RFCI values specified in the data packets,
the device (DCF) (5) includes an element for converting Optimized Codec Support Frame (OCSF) back to IP data packets.

19. Device according to Claim 16,
characterized in that
the device (DCF) (5) is an element of the Gateway GPRS Support Node (GGSN) (4) or another node.

20. Device according to Claim 16,
characterized in that
the device (DCF) (5) is it own node with access via an IP protocol.

FIG 1

Table

External network

IP network

FIG 2

1a and 1b
Invitation for call

2a and 2b
Response to invitation

3a and 3b
Confirmation of negotiated coder-decoder(s) and mode(s)

FIG 3

1. (Secondary) PDP context activation/modification request
2. RAB transmission request
3. RB setup request
4. RB setup request

FIG 4

4. RB setup request
5. RAB transmission request
6. Generate/update PDP context request
7. DCF initialization request
8. DCF initialization request
9. Generate/update PDP context request
10. (Secondary) PDP context activation/modification request

FIG 5

Optionale Felder = Optional fields
Nutzlast - Payload
Kodierte Daten = Coded data

FIG 6

(same as FIG 5)

FIG 7

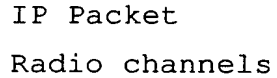

FIG 8

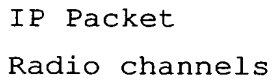

FIG 9

AMR frame sent between two MTs

Application

(possibly compressed)

FIG 10

AMR frame sent between MT and FT

Application

(possibly compressed)